

**SELF-ALIGNED SILICIDE (SALICIDE) PROCESS FOR LOW RESISTIVITY
CONTACTS TO THIN FILM SILICON-ON-INSULATOR MOSFETS AND FOR
SHALLOW JUNCTIONS**

ABSTRACT

8 A method (and resulting structure) for fabricating a silicide for a semiconductor device,
includes depositing a metal or an alloy thereof on a silicon substrate, reacting the metal or the
alloy to form a first silicide phase, etching any unreacted metal, depositing a silicon cap layer
over the first silicide phase, reacting the silicon cap layer to form a second silicide phase, for the
semiconductor device, and etching any unreacted silicon. The substrate can be either a silicon-
on-insulator (SOI) substrate or a bulk silicon substrate.